
System grade of service

Basic definitions of traffic distribution and grade of service (GOS) appear in *Meridian 1 system engineering* (553-3001-151). When configuring your Meridian 1 system to include the Meridian data features, consider GOS desired for both data traffic and voice traffic.

The following two factors affect the system grade:

- **Timeslot blockage**, which is the probability of blocking due to the unavailability of timeslots in the Meridian 1.
- **Service facility unavailability**, which is the probability of blocking due to the unavailability of a called service facility.

Timeslot blockage

Since timeslot blockage is a function of the amount of traffic connected on the network loop (both voice and data traffic) at the time the call is made, the probability of timeslot blockage is the same for both voice calls and data calls.

The Meridian 1 system cannot be engineered to give a different GOS for voice traffic and another GOS for data traffic with respect to timeslot blockage, unless voice traffic and data traffic are segregated on separate network loops.

The GOS desired for data traffic and the GOS desired for voice traffic in the Meridian 1 should be engineered to meet the more stringent GOS requirement of the two. Since the GOS to which data users are traditionally accustomed often falls well below the P.01 and P.02 level of blockage typically engineered for voice traffic, the voice traffic GOS is likely to be the more stringent.

The selected GOS determines the maximum average CCS to be handled per network loop in your system. Both voice and data CCS contributions are included in this figure. See Table 3 for the allowable CCS per network loop for different grades of service.

Service facility unavailability

Blockage due to the unavailability of a called service facility is a traffic factor reflected by the number of service facilities in your system. While this factor is not used in determining traffic handling capacity, consider the network termination constraints applicable to the Meridian 1 when calculating service facility requirement and when balancing anticipated traffic loads for both voice and data traffic among the network loops.

Refer to the service facility use tables in this document to determine the recommended number of service facilities for different grades of service.

Refer to “Configuration guidelines” on page 19 to determine your system requirements and limits when provisioning for the Meridian data features.